Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the matter of	)	
	)	
Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunication Technologies	)	ET Docket No. 92-9

COMMENTS OF CENTRAL AND SOUTH WEST

Harry D. Mattison
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Dated: May 6, 1992

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To: The Commission

COMMENTS OF CENTRAL AND SOUTH WEST

Pursuant to Section 1.415 of the Commission's Rules, Central and South West (CSW) hereby respectfully submits its comments on the Notice of Proposed Rule Making (NPRM), FCC 92-20, released February 7, 1992, in the above captioned matter.

I. Introduction

Central and South West is a public utility holding company whose four electric operating subsidiaries provide electric service to more than 4 million people in the Southwest. CSW's four electric operating subsidiaries are: Central Power and Light Company (CPL), Public Service Company of Oklahoma (PSO), Southwestern Electric Power Company (SWEPCO), and West Texas Utilities Company (WTU). The corporation also owns Transok, Inc., a major natural gas pipeline company serving both its sister companies and non-affiliated customers.

The CSW system's 2 Ghz microwave network, which spans about 2,000 linear miles, is critical to providing customers with efficient service. The network provides for voice and data communications integral to our operation, including the continuous monitoring and control of electric generating and pipeline facilities. Much of our sprawling 152,000 square mile service territory[1] covers sparsely populated areas in which microwave radio is the only communications method which is both cost-effective and reliable.

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[1]For reference, the states of Georgia, Alabama and Mississippi combined equal 157,000 square miles.

II. The 1850-2200 Mhz Band Should Not Be Reallocated For The Creation of A Spectrum Reserve

CSW opposes a reallocation of spectrum in the 1850-2200 Mhz band for the creation of a spectrum reserve for development of emerging technologies. As noted above, CSW owns and operates a substantial 2 Ghz microwave system that spans close to 2000 miles. This system is used to provide vital communications required for the **safe** and **reliable** operation of our electric system. These communication paths are especially critical during severe weather conditions when power lines or equipment can be damaged. In many places, replacement of this system with a 6 GHz system would require additional stations in order to provide the same level of **reliability** during severe weather.

On page 12 of the NPRM, item 25, the Commission states, *"We are particularly sensitive to the need to avoid any disruption of police, fire, and other public safety communications."* CSW believes that the isolation of downed power lines and the quick restoration of electric service is a serious public safety issue. Consider the possibilities such as disabled traffic signals, darkened streets, potential looting, people living in their homes who are dependent upon respirators or other special medical equipment, etc. A loss of electric service is a major public safety concern, and a concern that CSW believes is similar in priority with police and fire.

CSW takes its public safety responsibilities very seriously, and has therefore invested millions of dollars in personnel, computers, monitoring equipment, and the best, most reliable communications equipment necessary to make it all work. The Commission should be very careful in their deliberations before taking any action that potentially threatens the **reliability** of the telecommunications systems of electric utilities across the nation.

III. Other Technologies Are Not Reasonable Alternatives

On page 8 of the NPRM, item 17, the Commission states, *"... there are other reasonable alternatives for fixed microwave such as fiber, cable and satellite ..."* The following quote is from page 30 of the Office of Engineering and Technology (OET) staff report that purportedly supports the NPRM:

> *We recognize, however, that for many existing operations, fixed microwave continues to offer a significant cost savings over the deployment of fiber for long distances, especially when right of way problems exist or the fiber route is through rocky or rough terrain.*

CSW simply could not state our problems through south and west Texas any more succinctly. Installing 2000 miles of fiber through our service territory, using the OET's own estimate of $40,000 per mile (from the same paragraph of the report) would cost CSW's ratepayers and/or shareholders $80,000,000. This is approximately

4 times the estimated cost of switching over to a 6 GHz system. Our ratepayers and shareholders definitely consider **$60,000,000** to be a *"significant cost savings."* And for this price, we would have a non-redundant communications system that could be disabled for hours by a single backhoe accident.

CSW spent three years experimenting with satellite communications systems, and determined that this option was not economically feasible. We also discovered several technical problems that prevented scan rates of less than 10 seconds. Critical electric system components are monitored every two seconds using the existing 2 GHz microwave system. This time difference is unacceptable for our needs.

IV. Doubts About The OET Study Conclusions

The OET study mentions a maximum amount of licensees that can occupy a grid area based on certain urban grids with this particular number of licensees. In urban areas, these paths are varied in direction and orientation such that the chance of interference is lessened significantly. In rural areas, where a great deal of 2 GHz is used, path orientation tends to be similar as licensees seek to get to the same areas, and consequently along much the same routes (e.g. the petroleum pipeline corridor, OET pg 19). In other words, in the city, there are many locations with which to communicate, but in the country, many are trying to communicate to the same place. Microwave users have constructed their facilities just as the highway department would, using the most direct path possible between locations. The OET study did not review frequency coordination along these essentially parallel paths.

The OET study suggests that rural 2 GHz users should see little impact from PCS as it will be predominantly an urban service. Some PCS proponents agree, but others, such as Motorola, have expressed their belief that the entire band must be cleared in rural areas as well. Some of the emerging technologies are expected to be applications for satellites. Transmissions from satellites will not restrict themselves to urban areas. The Commission should have real answers to these kinds of questions before making a decision on such an important public policy issue.

V. Serious Doubts About Spectrum Sharing

According to comments filed with the Commission by the Utilities Telecommunications Council dated January 9, 1992, *"the Commission's Chief Engineer found that the Test Report filed by PCN America on June 14, 1991 did not provide sufficient evidence to support a determination that sharing between PCS spread spectrum systems and microwave users is feasible."* A detailed study done by Benjamin T. Caruso and presented at Entelec '92 concludes, *"The PCN America spread spectrum system will interfere with existing microwave systems."* At a minimum, the Commission must admit that there is a reasonable doubt about the feasibility of spectrum sharing.

The NPRM proposes a licensing category of **CO-PRIMARY** between PCS users and existing microwave users, and requested comments on this status. The NPRM does not define this term, but the implications are obvious. If neither licensee is **PRIMARY** and interference does occur, neither party has the power to quickly force the other party to resolve the issue. Our telecommunications needs are critical for the safe and reliable operation of our power system, we would have to resolve interference issues quickly. Therefore we view **CO-PRIMARY** as functionally equivalent with **SECONDARY**, in that we would be forced to make any changes required to eliminate interference. As such, we view a **CO-PRIMARY** status as unacceptable for our needs.

VI. Actions To Be Taken If 2 GHz Band Is Reallocated

If the Commission chooses to reallocate the 2 GHz band, CSW urges the commission to grant indefinite primary status for all existing 2 GHz microwave systems for electric utilities and **MUST** permit system modifications and expansions under the same status. Because of our reliability requirements, secondary status is simply **unacceptable.**

Before taking this action, the Commission must assure that:

1. **Reliable replacement spectrum is available.** Considering the importance of the existing users, we believe this requires extensive frequency coordination studies and research. The OET study grossly over simplified the real problems that the existing users will have to solve in order to replace their systems. A reallocation of the government spectrum in the 1.71-1.85 GHz band could be helpful in meeting this need, but would not completely solve our dilemma.

2. **Existing users receive adequate compensation.** This need is recognized and discussed in the NPRM, but no specifics are provided. There must be some structure to this process, and some method of arbitration for the inevitable disputes that will occur.

3. **Adequate time is granted to plan and construct replacement facilities.** CSW believes that 10 years is a minimal time period. Knowing what was involved in building 2,000 miles of microwave, CSW believes this is a very optimistic estimate.

4. **Installation requirements are established for the new PCS licensees.** Similar to the Commission's rules in other areas, CSW believe that the Commission must set specific time limits requiring new PCS licensees to begin the implementation of their proposed systems with specific time constraints.

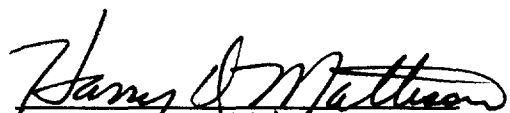
VII. Conclusion

CSW urges the Commission to reconsider other possible "homes" for PCS besides the 1850-2200 MHz band. We believe that the OET study has oversimplified a very complex, technical problem. The serious repercussions of this NPRM deserve a detailed study.

If the Commission still decides that this band is the best choice, we encourage the Commission to extend the exemption given to state and local governments to include power utilities for exactly the reasons the Commission used to justify the government exemptions, **public safety.** To be meaningful, however this exemption must allow for modifications and improvements without a change to secondary status.

Wherefore, The Premises Considered, Central and South West respectfully requests the Commission to consider these comments in acting on the subject Notice of Proposed Rule Making.

Respectfully Submitted,
Central and South West

By: 
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